



Editor's note: This post is co-authored by [Marcus Conyers](#) who, with Donna Wilson, is co-developer of the M.S. and Ed.S. [Brain-Based Teaching](#) degree programs at Nova Southeastern University.

Earlier in Donna's career as a teacher and school psychologist, she assessed, diagnosed, and helped to create interventions for children and youth who had difficulty with their executive functioning. Today as teacher educators, we are pleased that our graduates are increasing students' cognitive, metacognitive, and executive functioning in classrooms around the world (as just one example, Texas teacher Diane Dahl blogs on [teaching metacognition](#)).

What Are Executive Functions?

Through explicit instruction and modeling, students can come to recognize the importance of taking charge of their executive functioning in their academic endeavors and later in their careers.

Executive functions can be defined as the awareness and directive capacities of the mind. By wielding these skills and abilities, students decide where to focus their attention and which tasks to undertake. As a general rule of thumb, when students of any age have difficulty completing developmentally appropriate academic tasks on their own, executive functioning may be at the root of the problem.

In the human brain, executive functions are primarily regulated by the prefrontal regions (just behind the forehead) of the frontal lobes. Neuroscientists and psychologists have made significant gains in understanding the brain's executive functioning over the past several decades.

An appropriate metaphor that often helps students and educators alike understand the role of executive functioning in thinking and behavior is to imagine an orchestra conductor. The conductor chooses what work the orchestra will perform, decides how to interpret that work, sets the tempo for the performance, and directs each section of musicians to contribute at the appropriate time. In the same way, executive functioning allows us to:

1. Activate awareness
2. Self-regulate by cueing, directing, and coordinating the various cognitive skills necessary for moment-to-moment functioning
3. Establish goals and make long-term plans
4. Maintain a self-image of being in charge of our learning and actions.

Students can and should be taught to develop their executive functioning as a path to self-directed learning and self-determined living.

Making Connections

We have found that educators today are more interested than ever in teaching students to wield powerful learning and thinking tools. In other blog posts and articles we have written [with Edutopia](#) and [elsewhere](#), we have shared popular, practical strategies for increasing students' executive functioning by teaching them how and when to employ [cognitive assets](#), [metacognition](#), [working memory](#), and [selective attention](#). All of these learning tools come together under the umbrella of executive functioning.

Incorporating instruction on executive functions into content lessons emphasizes that:

1. Students are in charge of their learning
2. Honing their use of these skills and abilities will improve their performance in school and beyond.

Teaching students that they are the "conductors of their own brains" conveys the need to master a wide range of thinking and learning tools for use across core academic subjects, in their personal lives, and later in their college years and careers. Success in the 21st century demands self-directed learners and independent, creative thinkers.

Classroom Strategies to Support Executive Functioning

From elementary through high school and into adulthood, students will benefit from these opportunities to understand and develop their executive functioning:

1. Introduce the concept of executive functions and refer to these learning tools explicitly and often.

Define executive functioning, and lead discussions on how being aware of their thinking and taking control of their learning can help students achieve success in school and other aspects of their lives. A key message is that using executive functions often and effectively doesn't just happen -- we all have to work toward developing these abilities. Apply metaphors of executive functioning (the brain's conductor or air traffic controller, for example), and invite students to share examples of how they can use executive functioning in their lessons and activities outside of school. How do adults use executive functioning in their jobs? How do the actions of characters in stories demonstrate executive functioning?

2. Provide student-centered opportunities to put executive functioning to work.

Include students in setting learning goals for lessons, and let them choose their own books for independent reading and subjects for classroom projects. Giving students choices enhances motivation by giving them a chance to think about subjects that interest them, and also underscores that they are in charge of their learning.

3. Be the "prefrontal cortex" for your class.

Articulate and model effective thinking practices. For example, clearly state your intent for a learning activity and demonstrate the steps of planning, carrying out, and assessing the outcomes of the activity. Identify up front any thorny problems and tough spots in new lesson content, and talk through possible strategies for identifying and overcoming any learning difficulties that arise. Use cues to remind students when activating their executive functions might be useful.

4. Catch students using executive functions effectively.

Congratulate students who recognize and correct mistakes to emphasize that mistakes are prime learning opportunities. Recognize not just the finished product, but also the hard work and the steps of planning and execution that students accomplished in completing a big project. Especially celebrate the successes of students who've struggled with taking charge of their learning in the past.

5. Clearly state classroom rules that support positive and productive learning interactions.

A well-organized environment with predictable rules allows students to more easily focus on the learning tasks at hand.

How do you approach teaching and encouraging students to develop their executive functioning in your classroom?

[Donna Wilson, Ph.D. 's Profile](#)

http://www.edutopia.org/blog/strategies-strengthening-brains-executive-functions-donna-wilson-marcus-conyers?utm_source=SilverpopMailing&utm_medium=email&utm_campaign=040815%20enews-A%20metacog%20ngm&utm_content=&utm_term=fea1pic&spMailingID=11085441&spUserID=NzQ4MzM5MjQ4OTAS1&spJobID=520505162&spReportId=NTIwNTA1MTYyS0